



# Writing and Editing Technical Documents

Workshop  
Report

Michael Graham

IDRC  
CRDI



CANADA

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Report

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## 4 Writing and Editing Technical Documents: Workshop Report

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# Introduction

This training program was designed to help improve the quality of the reports and manuals produced by the Snow and Ice Hydrology (Pakistan) Project.

Under the terms of reference of the consultancy contract (88-8009-04) that related to the workshop, I was required to:

- "give a writing skills training workshop in Lahore. The workshop will focus on the preparation of procedures manuals. It will last 9 working days and take place during the month of November on dates mutually agreed upon with the Pakistani participants. Approximately 10 Pakistani professionals will attend the workshop. The course curriculum and teaching materials must be approved by IDRC by 15 October 1995."
- "provide the Snow and Ice Directorate of the Water and Power Development Agency of Pakistan a set of basic references for text editors." and
- "prepare a report (20 copies) of the workshop describing activities, the progress of participants, evaluation of the workshop by participants, and your own assessment of the value of this activity. The report should be edited in a format suitable for distribution under IDRC cover."

The training program was **not** designed to be a course about grammar, spelling, and punctuation. Rather, it sought to introduce concepts related to planning, writing, revising, and producing reports or manuals specific to the needs of the project.

This report includes a brief review of the training methods, provides samples of materials that were developed during the training session, evaluates the workshop from the perspective

of both the trainees and the trainer, and makes recommendations that are designed to suggest ways that we can make a lasting impact on the quality of the written materials that are produced by the project.

## Training Methods

The initial planning for the workshop included a review of existing project materials and the gathering of input on training needs from Sylvain Dufour (Project Manager, IDRC), Warren Bell (BCHIL), and Nancy George (Training Advisor, IDRC).

Based on this review, a training manual was developed to cover a broad range of topics related to the writing and editing of technical documents (Report No. IDRC.38). The table of contents of this manual is reproduced as Appendix A. Copies of the manual were shipped to Pakistan in advance of the training program and distributed to the participants for review.

Each day, specific topics such as organization, effective writing, readability, editing tables and illustrations, and layout and design were discussed using the training manual as a guide. The topic was discussed, points were noted on the board, and examples and exercises were reviewed as a group.

After the first day, each day started with a review of the material discussed the previous day. Following this review, we worked together each day to rewrite two or three poorly written sentences. Participants were given about five minutes to work on each sentence and then two or three people wrote their revised version on the board. This proved to be very good both for promoting discussion as well as for pointing out problems with the original sentences and with the suggested improvements. The same type of joint discussion was used to review the exercises that were included in the training manual.

The first six days of the training were devoted to these "classroom" sessions. The final four days were spent on providing individual feedback on reports and manuals that



had been written by the participants. These materials had been submitted by the participants during the first six days of the workshop. During these one-on-one sessions, I discussed the suggested organizational and editorial changes I had made and worked with the participants to rewrite and reformat specific materials required for regular reporting on project activities.

At the request of Hasnain Afzal, the Project Director, I also developed some additional training materials on Words and Sentences for the manual (see Appendix B). As well, the participants requested that "answers" be provided for the exercises and for the sentences we discussed at the start of each day. I provided these (Appendix C), but emphasized that these were only suggestions because there is rarely only one way to rephrase a sentence.

Mr Hasnain also requested that I suggest standard formats for various reports that are prepared on a regular basis for the project. I used this as an opportunity to review what we had covered during the course. As a group, we discussed the reasons the reports were prepared, their distribution, and the use made of the reports by various people and organizations. On this basis, we decided what each of the reports should contain and worked together to develop standard formats. Formats were developed for a scientific paper, trip reports, technical reports, and progress reports (see Appendix D). As well, I worked with Sultan Mahmood Qureshi to revise the format of a monthly report he prepares on the status of the project (included as part of Appendix D) and with Muhammad Javaid to revise the format of a table he prepares each month to report on the status of the remote stations.

At the conclusion of the workshop, I conducted an evaluation session to discuss the benefits that the participants felt they had derived from the training session and the things that could have been improved or added to the training program. As well, I sought suggestions on what could be done in future to build on the training and continue to improve the quality of

the written material produced by the project. This feedback was supplemented by a confidential questionnaire that was given to each participant. The completed questionnaires have been submitted separately to IDRC.



# Evaluation

This evaluation is based on three inputs: a confidential evaluation questionnaire completed by the participants (see Appendix E); an in-depth group discussion with the participants at the end of the training; and the trainer's observations of the progress made by the participants during this short course.

It is divided into the three sections that were used during the group discussion of the workshop: Benefits; What Could be Improved or Added?; and What Next?

## **Benefits**

It is difficult to measure benefits from a short course in writing and editing. Measures of progress are subjective, and progress varies considerably from participant to participant. Each participant brings different skills and experience to the training, and the participants vary in their degree of participation and involvement in the discussion. As well, not all of the trainees chose to submit material for review during the session, which limited the amount of individual feedback that could be given on their writing skills.

## **Writing and Editing**

In spite of this, the participants felt that they had benefitted in many ways. They suggested that their editing skills had been improved. Specifically, they mentioned that they understood the benefit of writing in simple, more easily readable sentences and felt better able to tackle the editing of technical reports. As well, they suggested that their grammar skills had been improved and that they better appreciated the importance of the format of reports and tables.

### **Standard Formats**

The trainees also felt that they benefitted from the discussion about, and creation of, standard report formats for the project. The training manual that had been prepared in advance was also cited as something that would help them improve their writing and editing skills in future. The provision of "answers" to the exercises was something that they felt would help them use the manual for review and further self-training.

### **Editorial Input**

The participants also suggested that it had been very helpful to have some of their work edited, and they appreciated the opportunity to review and discuss suggested changes on an individual basis.

### **Thought Processes**

From my point-of-view, I think that there were additional benefits. Some of the most important questions in writing and editing involve identifying the audience and the appropriate messages. At the start of the training course, questions such as "Who is this being written for?" or "What information is really important in this report?" were not raised by the participants. By the end of the training program, these questions were being asked spontaneously about the exercises and examples. In addition, participants were able to identify complex or confusing sentences in their own work and the work of others and to suggest ways to clarify the writing.

I consider these developments to be major benefits. We were able to work together to restructure reports and tables produced by the project by asking these simple questions. Once it was clear who would be reading the material and what information they needed, rewriting the messages and changing the layout were relatively easy. The ability to recognize sentences that may cause difficulties is a valuable skill. I hope that this "approach" to the writing and editing of project documents will continue. In the questionnaire, "planning" was most often chosen as one of the three most

useful topics covered during the training. I think this reflects an appreciation of the importance of these skills.

### **What Could be Improved or Added?**

#### **Basic Writing Skills**

The participants would have liked to spend more time on basic writing skills. They had expected that the course would focus on how to write a proper sentence in English. Instead, the approach I took was to try to work directly on improving the writing they were already doing and looking at ways to improve the overall presentation of various reports.

This criticism is valid. We spent limited time on very basic skills of sentence composition, grammar, spelling, and punctuation. However, this was not the original intent of the workshop I had tried to develop. I think the additional material I prepared on words and sentences helped address this desire for more instruction on basic writing skills. On my return to Canada, I contacted the Centre for Applied Language Studies at Carleton University to obtain additional resource materials on basic writing skills for the project.

#### **Participant Selection**

Some of the participants also felt that other people needed the training more than them. A couple of participants also suggested that they had thought that the course was going to be more computer-related. This reinforces the importance of clearly defining the goals of the training with the participants in advance. However, I think that the writing skills of all of the participants had room for improvement.

#### **Venue**

The training was held in the IDRC Project Room at the field office. It was suggested that there would have been fewer interruptions had the session been held at a hotel or other venue. There would have been some advantages at other venues; however, I found it useful to have the computers handy and to work on the systems and software that will be

used by the project staff. Several times we were able to solve a design problem directly by working during a break or before or after the training session. The other advantage of this in-house venue was that project reports and other material were at hand when we sought examples. I felt that the disruptions were minimal and did not seriously affect the training.

### **Training Methods**

The trainer was judged to be well prepared and the training methods were considered to be appropriate; however, it was suggested that more use could have been made of overheads and visuals and that more examples could have been provided in the manual. Specific suggestions were for examples of formats and layouts for reports and of standard wordings for correspondence and letters.

In fact, I had prepared overheads for all the exercises in advance. My original intention was to project my suggested answers so we could discuss them together. However, I decided to ask the participants to write their suggestions on the board. I think this was more effective for two reasons. One, it encouraged active participation by the participants. Two, it gave us the opportunity to discuss the problems with the original exercises as well as problems in the suggested revisions by the participants. The use of "prescribed" answers on overheads would not have had the same benefits in my view.

I will try to find examples of different types of business correspondence to include in the project's resource materials. However, the project staff should review some of the examples in the materials already provided. Several of the books purchased for the project give examples of design and layout for a wide range of publications.

### **Length of Training**

There were suggestions in the written evaluation that more time could have been spent on specific topics included in the training manual. The areas most often mentioned related to

writing effective sentences, editing and writing, and design and layout. These areas where more time would have been appreciated were closely correlated with the areas that were selected as the topics that were found to be most useful. In general, the course was thought to be too short. These comments are valid and reflect the difficulty of trying to cover in ten days such a broad range of topics while also providing practical advice on project reports. The training could have covered fewer topics in greater detail, but I think that it was important to look at the entire range of considerations in the production of technical reports and manuals. To do less would have been inappropriate given the needs of the project.

### **Type of Feedback**

Some participants suggested that they would have liked to have the exercises reviewed and marked individually rather than discussed as a group. Again, I think the benefits of group discussion outweigh the desire of some participants to have individual feedback on "artificial" exercises. Individual critique was built into the training session through detailed editing of actual reports that were being prepared (or in some cases had been prepared) by the trainees. I think this was more valuable and focussed more directly on real problems. However, not all participants took advantage of this opportunity.

### **Certificate**

The participants also felt that it would be useful for them to receive a certificate of their participation in this training program.

## **What Next?**

The participants made several suggestions on what should be done to help them to continue to improve their writing skills.

### **Samples of Good Writing**

They suggested that they need to be able to read more samples of good writing. They suggested that such magazines as *Readers Digest* would be useful. Perhaps some general



interest magazines such as *Canadian Geographic* or *National Geographic* would also be appropriate.

### **Writing Skills**

The participants suggested that additional workshops and outside editorial assistance would help them continue to improve their writing skills. It was also suggested that some staff might enroll in longer-term writing courses (college or university). As well, there was support for the establishment of some form of internal review for project reports.

### **Reference Materials**

More reference materials were also requested. It was suggested that information on more basic writing skills would be useful. As well, examples of the basic structure of various types of reports and correspondence were requested. These examples would indicate what to include in these written materials and also suggest appropriate formats.

I believe there is also a need for some basic references such as good dictionaries (Webster's and Oxford as well as a dictionary of science and technology) and a thesaurus. It would also be useful to consider upgrading the current version of WordPerfect for DOS from 5.1 to 6.1. The new version has many features that make it easier to format tables and to control the layout and design of reports.

## Recommendations

To continue to improve the writing and editing skills of the project staff, I recommend that these steps be considered:

- (1) Additional resource materials be purchased for the project. These should include several dictionaries, a thesaurus, some books that provide standard formats for business correspondence, and some self-instruction books on English composition. I have contacted the Centre for Applied Language Studies at Carleton University. They have some resource materials designed to teach English for specific purposes. Two of these would seem to be appropriate for the project: English for Engineers; and English for Science and Technology.
- (2) An upgrade to WordPerfect 6.1 for DOS be purchased. This software offers some enhanced features for the editing of tables and for the design and layout of reports. These features would make it easier to produce professional looking project documents.
- (3) If further writing skills training is to be undertaken, it should focus on very basic writing skills. Any training of this type would best be provided by someone who has experience in teaching adult literacy programs.
- (4) Continued outside editorial assistance would help to reinforce the writing and editing skills developed during this training session. Several participants requested that they be able to send me reports for my input. I would be delighted to continue to work with the participants on the production of some of the manuals and reports produced by the project. This input could be arranged under contract and could be conducted by mail or courier. If there were a sufficient amount of material to review, an on-site visit might be useful.

- (5) A certificate of participation in the course should be designed and sent to the Project Director for presentation to the participants.
- (6) I think a key to continued improvement in the quality of the reports produced by the project is internal peer review. I believe the Project Director should take the lead in this regard by organizing meetings to formalize the review of project reports. He should chair the review meetings and ensure that reports are circulated well in advance. The review should cover both the substantive content of the material and the language and layout. Specific suggestions and questions should be written directly on the reports. This type of review would continue to build on the concepts of the training program while improving the written materials produced by the project.
- (7) I believe it would also be useful to institute some internal seminars in English to review progress on specific aspects of the project or to report on field trips. Staff should produce a written brief for the seminar as well as make an oral presentation. These presentations need not be very long, but they would provide practice in organizing and reviewing project work and also making written and oral presentations in English.

## Acknowledgements

First, I would like to thank Mr Hasnain Afzal for his strong support for the objectives of this course and for making all of the arrangements that were needed to make this training a success. I would also like to thank Mr Danial Hashmi for the many extra hours he spent with me.

It was a pleasure to work with the entire staff of the Snow and Ice Hydrology (Pakistan) Project. I thank all of the participants for their high level of motivation and participation in the training program, and the rest of the staff for their support during my visit.



# Appendix A: Table of Contents of Training Manual (Report No. IDRC.38)

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## **Appendix B: Supplementary Material Prepared for Training Manual**

# Words

In English, words can be divided into nine categories. These categories are called "parts of speech." They are:

- ☐ Nouns;
- ☐ Pronouns;
- ☐ Verbs;
- ☐ Adjectives;
- ☐ Adverbs;
- ☐ Conjunctions;
- ☐ Prepositions;
- ☐ Interjections; and
- ☐ Articles.

We will briefly review what each of these parts of speech do; however, you might find this short poem to be helpful:

## Parts of Speech

Three little words you often see  
Are ARTICLES, *a*, *an*, and *the*.  
A NOUN's the name of anything;  
As *school* or *garden*, *hoop*, or *swing*.  
ADJECTIVES tell the kind of noun;  
As *great*, *small*, *pretty*, *white*, or *brown*.  
Instead of nouns the PRONOUNS stand;  
*Her* face, *his* face, *our* arms, *your* hand.  
VERBS tell of something being done;  
To *read*, *count*, *sing*, *laugh*, *jump*, or *run*.  
How things are done the ADVERBS tell;  
As *slowly*, *quickly*, *ill*, or *well*.  
CONJUNCTIONS join the words together;  
As *men and women*, *wind or weather*.  
The PREPOSITION stands before

A noun, as *in* or *through* a door.  
The INTERJECTION shows surprise;  
As *oh! how pretty! ah! how wise!*  
The whole are called nine parts of speech,  
Which reading, writing, speaking teach.

*Anonymous*

## Nouns

A noun is the word for a person, place, thing, or idea. There are two types of nouns — proper nouns and common nouns.

A proper noun is a *specific* person, place, thing, or idea. For example, Michael Graham (person), Lahore (place), The Water and Power Development Authority (thing), or Islam (idea).

A common noun is any noun that is not a proper noun.

In sentences, nouns usually do something or something is done to them. A noun that does something is the *subject* of the sentence. If something is done to the noun, it is the *object* of a verb.

For example: *John hit the ball.*

John is the subject of the sentence, and ball is the object of the verb hit.

## Pronouns

A pronoun is a word used to replace a noun. There are six types of pronouns (personal, demonstrative, relative, interrogative, indefinite, and reflexive) and they have different forms that are easy to confuse. For more detail on these different pronouns see Day's book *Scientific English*, pages 29-33.

It is very important when using a pronoun to make sure that the sentence makes it very clear which noun is being replaced. It is usually these types of errors that appear as examples of poor writing.

Consider these sentences:

***When the Queen smashed the traditional bottle of champagne against the hull of the boat, she slipped down the runway, gained speed, and landed in the water with a gigantic splash.***

***It is all right to give raw milk to your baby, but first boil it.***

***He stole seven bicycles from children. Many were later found in pieces.***

## Verbs

Verbs provide the action in sentences. Verbs can be divided into two types: transitive and intransitive. This simply means that some verbs (transitive) need an object (a noun following the verb); others (intransitive) do not.

For example:

He gave me the computer program.

He ran.

In the first example, *gave* had an object (computer program). In the second, there is no object; therefore, the verb is intransitive.

We will discuss more about verbs when we talk about passive and active voice and the use of action verbs instead of abstract nouns.

## Adjectives

An adjective modifies (tells more about) a noun or pronoun.

For example:

A *red* apple.

A *large red* apple. (Here two adjectives are used together.)

## Adverbs

Adverbs are words that modify verbs, adjectives, or other adverbs.

For example:

He went *slowly*.

It was *very* small.

He went *very* slowly.

In the first example, the adverb modifies a verb; in the second, an adjective; and in the third, an adverb.

## Conjunctions

Conjunctions are words that are used to connect words, phrases, or clauses.

For example:

Joe *and* Mary are going to the party.

She is neither in the house *nor* in the car.

He ran, *but* she walked.

## Prepositions

Prepositions are words that are combined with nouns and pronouns to form a phrase. Most prepositions express direction or location.

For example:

*to* the right

*in* the middle

## Interjections

An interjection is a word, phrase, or sentence that expresses emotion.

For example:

Of course!

I thought so!

In general, there is little need for interjections in scientific and technical writing.

## Articles

The articles *a*, *an*, and *the* are the most common words. The words *a* and *an* are called indefinite articles; *the* is the definite article.

### **Exercise A**

Mark the different parts of speech in these sentences.

***The boy bounced the red ball.***

***The scientist investigated the problem. He found the solution quickly.***

***I found the car in the garden. Wow!***



## Phrases, Clauses, and Sentences

The nine kinds of words we have discussed can be grouped together into phrases, clauses, and sentences.

### Phrases

A *phrase* is a group of two or more words that do not make a full statement (they do not contain both a subject and a verb). As a group, these words act as part of a sentence or modify some other element in the sentence.

For example:

He went to a restaurant *in the city*.

*For the first time*, scientists have cured this disease.

### Clauses

A clause is part of a sentence; however, unlike a phrase, a clause has both a subject and a verb. There are two types of clauses: independent and dependent.

An ***independent clause*** is a set of words that makes a complete statement. Therefore, an independent clause could stand alone as a complete sentence. However, as a clause, it is attached to some other sentence element (another independent or dependent clause).

For example:

*No amount of experimentation can prove me right; a simple experiment may at any time prove me wrong.*

Albert Einstein

Here we have two complete thoughts (independent clauses) separated by a semicolon. Both thoughts are complete sentences on their own, but Einstein decided to combine them to show the close relationship between the two ideas. He could have written the same words as two sentences separated by a period.

Independent clauses are usually separated from each other in three ways: with a semicolon; with a semicolon and an adverb such as *however*, or with a comma and a coordinating conjunction (for example *and* or *but*).

For example:

*No amount of experimentation can prove me right; however, a simple experiment may at any time prove me wrong.*

*No amount of experimentation can prove me right, but a simple experiment may at any time prove me wrong.*

A **dependent clause** also has a subject and verb, but it is introduced by a subordinating word that makes the clause dependent on another clause. Many of these subordinating words express time constraints (when, after, before) or doubt (if, whether).

For example:

*If you are here, you will learn about clauses.*

*When he came to the party, he did not know anyone there.*

Note that the dependent clause is incomplete by itself and that a comma follows the dependent clause.

*When a dependent clause starts a sentence, always end that clause with a comma.*

## **Sentences**

Sentences are the basic unit of thought and expression. If you can build sentences logically, you can communicate clearly. There are only six kinds of sentences. These six types are:

- ☐ Questions;
- ☐ Exclamations; and
- ☐ Four types of Declarative sentences.

### **Questions**

A question is a sentence that asks something and, therefore, ends with a question mark.

For example:

*How do I do this?*

### **Exclamations**

An exclamation is a sentence that ends with an exclamation mark. Exclamations can be words, phrases, clauses, or full sentences.

For example:

*Help!*

*Get ready!*

*When I am ready!*

*Place this sticker in the window!*

Exclamations lose their force if they are used too frequently. In general, avoid their use in scientific and technical writing.

### ***Declarative Sentences***

There are four types of declarative sentences:

- ☐ Simple;
- ☐ Compound;
- ☐ Complex; and
- ☐ Compound-complex.

### **Simple Declarative Sentences**

A simple sentence consists of one independent clause. That is, the sentence contains a subject and a verb; it may also contain an object. The normal structure of a simple sentence (and the easiest to understand) is: subject, verb, object.

For example:

*A meteorite hit the earth.*

*She solved the problem.*

Simple sentences are not necessarily short. Modifying words and phrases can be added.

For example:

*Bob and Sally painted the house, the barn, and the door.*

### **Compound Declarative Sentences**

Compound sentences contain two (or more) independent clauses. Almost any two simple sentences can be joined together to form a compound sentence. But, this should be done only if the ideas in the two simple sentences are related.

For example:

*A meteorite hit the earth, and she solved the problem.*

This sentence is grammatically correct, but should the two ideas be linked?

As we discussed before, the two parts of a compound sentence are usually joined in one of three ways:

- ☐ With a semicolon;
- ☐ With a comma and a coordinating conjunction (*and*, *but*); or
- ☐ With a semicolon and a coordinating adverb (*however*, *therefore*).

For example:

*The plumber located the problem; he found it difficult to repair.*

*The plumber located the problem, but he found it difficult to repair.*

*The plumber located the problem; however, he found it difficult to repair.*

### **Complex Declarative Sentences**

A complex sentence has one independent clause and one or more dependent clauses.

For example:

*Although the plumber located the problem, he found it difficult to repair.*

Complex sentences are simple sentences to which a qualifier (in the form of a dependent clause) has been added. Qualifications are often needed in scientific and technical writing. The clear meaning of a simple sentence is often qualified by an *if*, *when*, or *although*.

For example:

*When the temperature drops, there is less activity.*

### **Compound-Complex Declarative Sentences**

A compound-complex declarative sentence has at least two independent clauses and at least one dependent clauses. Although these sentences tend to be longer than the other three types of declarative sentences, they need not be difficult to understand. The independent clauses are joined together exactly the same way as they are in a compound sentence. A dependent clause is added as it would be in a complex sentence.

For example:

*Although the plumber located the problem, he found it difficult to repair; in fact, he determined that new parts would be needed.*

You can assemble and punctuate all four types of declarative sentence if you learn to recognize the differences between the two types of clauses.

An independent clause is a complete statement; a dependent clause is incomplete and requires an independent clause to complete its meaning.

Here is a summary of the four types of declarative sentences. These are the sentences you will use in over 99% of your writing.

- A *simple* sentence is used to make an unqualified statement.
- A *compound* sentence is used to make two (or more) unqualified statements that logically belong together.
- A *complex* sentence adds a qualification or subordinate idea to a statement.
- A *compound-complex* sentence presents two primary statements, and one or both of these primary statements is qualified.

## Appendix C: Suggested Answers for Exercises and Practice Sentences

### Exercise 1

On the following pages, are four extracts from books, manuals, and brochures that discuss different aspects of computers. For each of the samples, please answer these questions:

- ☐ **Who** was the material written for? (imagine a typical reader)
- ☐ **What** clues helped you to identify the intended reader?
- ☐ **When** is the material going to be used?
- ☐ **Where** will the publication be used?
- ☐ **Why** was the material written?
- ☐ Describe **how** the publication was planned to meet these intentions. Can you suggest any ways the publications might have been changed to meet these intentions more effectively?

Write your answers on the page opposite the sample.



### **Sample 1**

**Who?**

Computer user (designed for experienced home user); or could be technician.

**What?**

Circuit boards, lots of diagrams.

**When?**

During replacement or repair of components in computer.

**Where?**

In the home or in a technical repair shop.

**Why?**

To instruct the users in the exact steps needed to replace an expansion card.

**How?**

Step by step instructions (numbers) and many illustrations with labels on components to clearly indicate location of parts.

### **Sample 2**

**Who?**

Written for children (10-12 years old). Could be for readers with little computer knowledge in general.

**What?**

Use of cartoons, language is simple, written in a easy step-by-step way.

**When?**

When someone wants to learn about computers or wants to teach someone.

**Where?**

In a classroom or in the home.

**Why?**

To teach or instruct.

**How?**

Use of cartoon characters, colour, simple words, comparison with bicycle (which may be familiar to children).

**Sample 3**

**Who?**

Computer programmers.

**What?**

Gives very specific details about steps to take to complete mathematical operations.

**When?**

When learning how to write programs using this program language.

**Where?**

In a school or office.

**Why?**

It would be used to teach someone, or to learn by yourself.

**How?**

Gives very specific instruction (many details). Perhaps it could be improved if the type was a little larger so that it was easier to read.

### **Sample 4**

**Who?**

The buyer of a Borland product.

**What?**

Gives number to get help, and thanks the buyer for purchasing the product.

**When?**

After purchase — either to register the software, or to get help.

**Where?**

At home or in office.

**Why?**

To register software or seek help.

**How?**

Perhaps the telephone numbers could be highlighted in bold to make them easier to see and read.

### **Exercises 2, 3, and 4**

There are no suggested answers for these three exercises because they were designed to get the participants to write and revise their own work and discuss it with the instructor.

### **Exercise 5**

Rearrange the following statements in decreasing order of abstraction. The most abstract, general statement should be at the beginning. The most concrete, specific statement should be at the end.

1. Ahmed makes sure all our publications are of high quality.

2. Ahmed edited one of my research reports yesterday.
3. Ahmed edits the text of our publications to meet international standards.
4. Ahmed is useful to have at the institute.
5. Ahmed is a good colleague.
6. Ahmed pays special attention to research reports.

***Suggested order 5, 4, 1, 3, 6, 2.***

Which of these statements are purely factual and can be proved? Which cannot be proved or disproved?

1. Mrs Ching has a kind heart.
2. Michael Graham lives in Canada. (F)
3. Faouzia loves her father.
4. WAPDA is located in Lahore, Pakistan. (F)
5. Mr Pande never drinks beer.
6. Mira reads only good books.

## **Exercise 6**

Most of these expressions and words are used by engineers, technicians, and scientists when they write. For each, suggest a simpler and more direct word or expression. (For example, for "commence" use "begin" or "start.")

commence	start
an abundance of	many

remunerate	<i>pay</i>
frequently	<i>often</i>
prior to that time	<i>before</i>
close proximity to	<i>near</i>
purchase	<i>buy</i>
magnitude	<i>size</i>
for the purpose of	<i>to</i>
in the majority of cases	<i>most</i>
make enquiry regarding	<i>ask</i>
hold a meeting	<i>meet</i>
utilization	<i>use</i>
terminate	<i>end</i>
initiate	<i>start</i>
is equipped with	<i>has</i>

### Exercise 7

Edit these sentences to make them easier for the reader to understand. Write your revision below the original.

1. These ideas have very many different origins.

*These ideas have many origins.*

2. The herd furnished a sufficient quantity of milk.

*The herd gave enough milk.*

3. The use of a tractor facilitates plowing.

*A tractor makes plowing easier.*

4. It is my opinion that the department should now embrace policy direction.

*I think the department should make new policies.*

5. The advent and employment of modern farm machinery has made farming easier.

*Modern farm machines have made farming easier.*

6. Greater ease in comprehension of the author-produced communication may be stated as the essential goal of the editorial worker.

*The editor's main job is to make the author's manuscript easier to read.*

### Exercise 8

Rewrite these sentences to make the verbs active. Make any other improvements you think might be needed. Write your revision under the original sentence.

1. My theory is proved with this evidence.

*This evidence proves my theory.*

2. A review was done of the relevant regulations.

*We (or they) reviewed the relevant regulations.*

3. The database is a store of information.

*The database stores information.*

4. The annual report was written by the director general himself.

*The director general wrote the annual report.*

5. The data, showing a 25 percent increase in flow rate, are summarized in Table 9.

*The flow rate increased 25% (Table 9).*

6. From the present experiment, it could be concluded that pest control might be achieved effectively through natural enemies.

*The results suggest that natural enemies can effectively control pests.*

7. Continuous freshwater supply is necessary in the hatchery.

*The hatchery needs a continuous supply of fresh water.*

8. A field day will be held on October 15 by the Ministry using its extension specialists.

*Ministry extension specialists will hold a field day on 15 October.*

## Exercise 9

Review the following sentences. Eliminate strings of nouns or phrases, make verbs active, tie the agent to the verb, and suggest other changes that would make the sentence more readable. Write your revision in the space below each example.

1. Soil moisture status governs the success of chemical weed control in upland rice.

*The ability of chemicals to control weeds in upland rice depends on the amount of moisture in the soil.*

2. Photographic subject acquisition policies will be determined by the information department head.

*The head of the information department decides what photographs will be taken.*

3. The main goal of this article is to describe text comprehension processes.

*This article describes how people understand what they read.*

4. Normally, all mosquitoes are not killed in an effective spraying program.

*Normally, not all mosquitoes are killed in an effective spraying program.*

OR FOR GREATER EMPHASIS

*Normally, even an effective spraying program does not kill all mosquitoes.*

5. Examination of present policies and procedures of implementation for standardization of equipment and materials used in three regions over the period of two years was carried out.

*They (or we) examined how present policies and procedures for standardizing equipment and materials have been carried out in three regions for two years.*

## Exercise 10

Break these two long sentences into two or more sentences. Write your version below the original.

1. To be sure you have gotten a chance to see each employee's card at the time he is certified, I would advise each of you to initial on the same line as the supervisor with your initial, so that you can definitely know whether or not you have seen the card.

*You should see each employee's card when he or she is*



*certified. To make sure you have done so, initial each card on the same line as the supervisor.*

2. Furthering the executive committee's recent authorization of making arrangements with Mr. William Smith, who will conduct two clinics with the purpose of simplifying and making readable written material in the institute, the director general requests that samples of all written material, typical of that prepared by each department, be forwarded to him by Monday in order that it can be given to Mr. Smith for analysis.

*Mr William Smith will hold two clinics on writing. The executive committee hopes that, as a result, the institute's materials can be simplified and made easier to read. To provide Mr Smith with examples to analyze, please send me by Monday typical samples of all written material prepared by your department.*

*(signed)*  
*Director General*

## Exercise 11

Revise these sentences to give them added force by using short simple words and strong verbs. Follow other rules for readability as well.

1. The three weed species had different rates of development.

*The three species of weeds developed at different rates.*

2. Rice culture under permanently inundated conditions is an effective method for suppressing weed growth.

*Weeds can be controlled by keeping the rice fields flooded.*

3. The data reflecting increased flow rates of as much as 10 percent are shown in Figure 4.

*Flow rates increased by 10% (Figure 4).*

4. It is our belief that there should be consultation by the administrators with the staff before changes in office regulations are made.

*We believe administrators should consult the staff before changing office regulations.*

5. A very significant contribution to the literature on the subject is Khan's explanation, written in 1984, of the causes for emigration of unemployed workers from areas with a lack of sufficient capital.

*Khan (1984) suggested why unemployed workers leave areas that lack sufficient capital.*

## **Exercise 12**

**Remove the unnecessary words from these sentences.**

1. During that period of time, the stomach area became pink in colour and tender in feeling.

*During that time, the stomach became pink and tender.*

2. The holes must be aligned in an accurate manner.

*Holes must be aligned accurately.*

3. The book was 2 kg in weight.

*The book weighed 2 kg.*

4. We investigated many different varieties of wheat.

*We studied many varieties of wheat.*

### Exercise 13

Use the things we have discussed in this section to redraft the table on the next page to make it easier for the reader to understand.

Create the new table on the blank page that follows the example table.

Pay particular attention to making the table easier to read, making the most important data prominent, and checking the accuracy of the data.

Table 1. Distribution of journal subscriptions in North American and rest of world (120 journals, 1987).

	No. of Journals	Circulation (%)		Average no. of subscriptions
		North America	Rest of World	
Circulation				
≥ 6000	25	73	27	11630
2500–5999	33	61	39	3810
1000–2499	39	54	46	1390
≤ 999	23	61	39	640
Total	120	68	32	4050
Type of publisher				
Professional society	51	74	26	5870
Research institute	20	43	57	2690
Commercial publisher	49	65	35	2710
Total	120	68	32	4050

Need to confirm:

Is 39% correct for rest of world (2500–5999)?

Which number is incorrect for circulation and for type of publisher under journals?

Are the figures for "total" in original table really averages as the title says?

What does 4050 represent under the "average" column?

Should we keep both total rows or can we use only one?

Do we need the last column in this new version?

Points to note:

Table should be numbered, and title should be more descriptive.

Number of pages is irrelevant and not mentioned in the title.

Side headings can be simplified.

Given audience, only percentages needed; not absolute numbers.

"Circulation" added to make information clearer.

Decimal place in percentages not needed.

## Practice Sentences

As requested, here are the sentences we worked on at the start of each day. The edited versions that I have suggested may not be the best rewrite. In fact, several of the versions we developed together were better. There is no one perfect way to write any sentence. The words you use and the sentences you write depend on the reader. ***Remember the reader at all times when you write and edit.***

**From being the world's largest rice importer in the early 1970s, Indonesia is now self-sufficient in its main stable food, and may soon begin to import rice.**

The most important errors are the use of stable for staple and import for export.

*Although Indonesia was the largest importer of rice in the 1970s, it is now self-sufficient and may soon begin to export rice.*

**Evidence was sought with respect to the manner in which efficacy of management as it occurred in the forest was evaluated, and was used as feedback control to improve the overall performance of the management process.**

*We investigated how well forest-management skills were evaluated and used to improve forest productivity.*

**We solicit any recommendation that you wish to make and you may be assured that any such recommendation will be given our careful consideration.**

*Please submit your recommendations. All will be considered carefully.*

***Although maximization of family labour force participation is commonly observed to be a survival strategy of the poor, this is subject to certain restriction in the case of female labour.***

*Most members of poor families usually must work to survive; however, women tend to work less (outside the home?).*

***Salt is one substance that can change the specific gravity of the solution, thus facilitating the floating of undesirable half-filled and light seeds.***

*Salt is added to the solution to increase (?) its specific gravity. This helps float (separate?) seed that are half filled.*

***Where management perspective is restricted either geographically or functionally, potential exists for distortions to enter decision-making because of the incomplete view of the natural systems and the impacts of man's activities on these systems.***

*If managers do not completely understanding natural systems and the impact of human activities on these systems, they may make poor decisions.*

OR

*Mangers may make poor decisions if they do not completely understanding natural systems and the impact of human activities on these systems*

***Careful thought should be given to the desirability of being in attendance at the convention and the value***

***accruing to the institute from such attendance before asking us for approval of the expenditure.***

*If you seek approval to attend the convention, please state how your attendance will benefit both you and the institute.*

***In the event that the fire alarm is sounded, please vacate your room as speedily as possible and congregate outside the building.***

***IN CASE OF FIRE***

- 1. Leave your room immediately.*
- 2. Meet (in the parking lot or some other specific place?) across the street.*

*The instructions should also include instructions not to use the elevator, not to panic, to follow instructions from fire marshall etc.*

***For optimum growth and cropping the coffee tree requires an adequate level of nitrogen at all times but the roots can only take up nitrates when the soil is moist.***

*The coffee tree requires an adequate level of nitrogen (at least xx kg/ha as nitrates?) for maximum yield. However, the roots can only absorb these nitrates when the soil is moist.*

## **Appendix D. Sample Formats for Different Types of Project Reports**



## **Pakistan Snow and Ice Hydrology Project**

### **Trip Report**

**Report Number:** SIHP-TR-01

**Dates Covered:** 10 November to 23 November 1995

**River Basin:** Upper Indus

**Submitted by:** Jawed Iqbal Bhatti

**Date:** 2 December 1995

**Distribution:** Hasnain Afzal - WAPDA  
Sylvain Dufour - IDRC  
Warren Bell - BCHIL

The body of the trip report should be organized into the following sections:

**Purpose:**

The purpose should state the exact reason the trip was undertaken. For example the purpose might be:

To examine the civil works at the test stations and to test the operation of all sensors installed in the Upper Indus River Basin.

**Observations:**

This section will normally be a day-by-day account of events. It should focus on making observations that are specific to the purpose of the trip.

If the information is organized by day, it would be useful to include at the end of each day, notes of important facts or action that is needed.

For example:

**Note:** Solar collector damaged - must be replaced on next field trip.

**Recommendations:**

It is important to include a short section at the end of the report that summarizes the recommendations you are making as a result of the trip.

## **Pakistan Snow and Ice Hydrology Project**

### **Progress Report**

**To:**

**From:**

**Re:**

#### **Achievements:**

This report should be formatted like a simple memorandum. The achievements of the section should be listed in numbered paragraphs and should start with the most important events. The less important or routine events should be at the end of the list.

#### **Concerns:**

This section should very briefly point out any concerns or problems that have occurred in the last month and may affect the project.

## **Pakistan Snow and Ice Hydrology Project**

### **Technical Report**

**Report Number:** SIHP-TECH-01

**Stations:** Marla and Kohala

**Submitted by:** Muntasir Usmanii

**Date:** 2 December 1995

**Distribution:** Hasnain Afzal - WAPDA  
Sylvain Dufour - IDRC  
Warren Bell - BCHIL

Technical reports should contain these sections:

**Purpose:**

The purpose should state the exact reason the technical report was undertaken. For example the purpose might be:

To examine the performance and operation of the sensors installed at Marla and Kohala and to make recommendations on the suitability of the Meteor Burst system for use in flood telemetry.

**Methods:**

Explain what was done, what tests were conducted.

**Results:**

Explain the result of the technical work that was done. This would include tables or figures presenting relevant data.

**Conclusions and Recommendations:**

Indicate what the results suggest for future project activities. And make recommendations for future work.

## **Scientific Paper**

Most scientific journals provide specific guidelines to authors and also specify such things as type of spelling (British or American) that they use. If you are planning to submit a paper to a journal, you should review a copy of an issue of the journal and follow the style required by that journal.

However, most journals will follow this format:

### **Title**

### **Author and address**

Some organizations assign a contribution number to each paper - does WAPDA do this? If so, this is usually given as a footnote on the first page. Alternatively, it can be given in the acknowledgements section if there is one.

### **Abstract**

### **Key Words (sometimes requested for indexing purposes)**

### **Introduction**

### **Methods and Materials**

### **Results**

### **Discussion**

### **Conclusions**

### **Acknowledgements**

### **References**

*Note: The original version of this progress report was formatted to fit on a single page.*

## HYDROLOGY AND RESEARCH DIRECTORATE PROGRESS REPORT FOR JULY 1995

**Name of Project:** Pakistan Snow and Ice Hydrology Project Phase-II.

**Date of commencement:** July 1989

**Date of completion:** December 1996

**Purpose and Scope of Project:** Continuation of Snow and Glacier surveys. To establish facilities for automated data collection and for development of models to: (1) improve forecasting of seasonal and short-term river flows in the Indus Basin; and (2) optimize agriculture and power production.

### Financial Resources (Rs. million):

	Local	Foreign	Total
<b>Financial Status</b>			
(a) Approved budget	33.606	114.785 <sup>a</sup>	148.391
(b) Expenditures to end of last year (as per Books of Accounts)	23.564	88.801	112.365
(c) Allocation for 1995-1996	6.378	9.000	15.378
<b>Expenditures</b>			
(d) During the month	0.312	— <sup>b</sup>	0.312 <sup>c</sup>
(e) Total for the year	0.403	— <sup>b</sup>	0.403 <sup>c</sup>
(f) Total to date (b) + (e)	24.967	88.801	113.768

<sup>a</sup> Clarification needed; <sup>b</sup> Not yet reported by donor; and <sup>c</sup> Tentative amount.

### Progress During the Month:

1. Work continued on data deciphering and on preparation of daily and monthly reports from the remote DCP stations.
2. Flow-stage data for flood estimation continued to be received at Shadman office from gauging stations at Kohala and Marala.
3. Complete work files were received from Tarbela and Mangla and used to run the forecast and simulation model. Forecasting procedures are being tested using available low-elevation weather and flow data.
4. Field work was completed by one Junior Engineer and three Sub-Engineers to install a DCP in Barldu River Basin and to maintain 10 existing DCP sites in Indus River Basin.
5. A telemetry party carried out maintenance work at Rama, Rattu, Deosai, Burzil, and Hushe.

6. A consignment of diodes needed to modify the shaft encoder cards was received and seven more cards were modified and tested in the Model Town laboratory.
7. An electronic device for river gauging was prepared by the Senior Engineer (Telemetry) and was installed at Kuchra.

**Overall Progress:**    Physical    74.60%  
                                 Financial    76.66%

**Problems/Bottlenecks:**    None





## Appendix E: Evaluation Questionnaire

(1) Please indicate how useful you found the following topics:

	<b>Very useful</b>				<b>Not useful</b>
	1	2	3	4	5
Communication					
Planning a Publication					
Writing					
Planning					
Editing					
Testing					
Editing and Rewriting					
Getting the Most Out of Words					
Writing Effective Sentences					
Readability					
Organization					
Editing for Detail					
Tables					
Illustrations					
Design and Layout					
Resource Materials					

(2) Please list the three topics you found most useful.

- 1.
- 2.
- 3.

(3) Do you think this training session was (please check one)

- ☐ too long
- ☐ about the right length
- ☐ too short

(4) Were there topics you would have liked to discuss in greater detail?

- ☐ Yes
- ☐ No

If "yes", what were these topics?

(5) Were there topics you think might have been omitted?

- ☐ Yes
- ☐ No

If "yes", which topics?

(6) Do you think that the manual *Writing and Editing Technical Documents* will help you write better documents for the project?

- ☐ Yes
- ☐ No

(7) Was the teaching method appropriate?

- ☐ Yes
- ☐ No

(8) Was the instructor well prepared?

- ☐ Yes
- ☐ No

(9) Were the assignments useful?

- ☐ Yes
- ☐ No

If "no", how could they have been improved?

(10) Were the individual sessions to review your own work useful?

- ☐ Yes
- ☐ No

If "no", how could they have been improved?

(11) Have you any suggestions to make to improve the content, teaching, approach, or organization of the workshop?

**ALL RESPONSES ARE CONFIDENTIAL.**

Thank you.



## Appendix F: Participants

### **Hydrology and Research Directorate**

Hasnain Afzal	<i>Project Director</i>
Sultan Mahmood Qureshi	<i>Senior Research Officer (Tech)</i>
Anwar Hussain Gilani	<i>Senior Engineer (PSI)</i>
Jawed Iqbal Bhatti	<i>Senior Engineer (M&amp;C)</i>
Muhammad Inamullah Khan	<i>Junior Engineer (PSI)</i>
Danial Hashmi	<i>Junior Engineer (PSI)</i>
Muhammad Munir	<i>Research Officer (Model)</i>
Ghazanfar Ali	<i>Research Officer (PSI)</i>
Muntasir Usmani	<i>Research Officer (M&amp;C)</i>
Muhammad Javaid	<i>Assistant Research Officer (PSI)</i>

### **Planning and Investigation Directorate**

Amir Reza Khan	<i>Assistant Design Engineer</i>
Muhammad Ashfaq	<i>Assistant Design Engineer</i>